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Medical Surveillance Monthly Report

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Data in the MSMR is provisional, based on reports and other sources of data available to the Medical Surveillance Activity. Notifiable conditions are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.

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Surveillance Trends

Febrile Acute Respiratory Disease Caused by Adenovirus Serotype 4, Fort Jackson, SC, Fort Gordon, GA

Prior to the availability and routine use of vaccines against them, adenovirus serotypes 4 and 7 caused recurrent large outbreaks among military basic trainees. Recently, the sole manufacturer of adenovirus vaccines discontinued their production. In order to extend the availability of remaining vaccine stocks, the military services limited their routine use to the relatively high risk fall and winter seasons.

In May 1997, the Preventive Medicine staffs at Forts Jackson and Gordon added virus isolation (supported by the Virology Laboratory, Eisenhower Army Medical Center) to their standard acute respiratory disease (ARD) surveillance efforts. In October 1997, the MSMR reported that, through the summer and fall, ARD rates and isolates of adenovirus type 4 from ARD cases persistently rose among basic trainees at Fort Jackson. In addition, adenovirus type 4 isolates were recovered from ARD cases among advanced individual training (AIT) students at Fort Gordon — particularly those who had recently completed basic training at Fort Jackson.

This report provides detailed information regarding the ARD and adenovirus type 4 experiences at Fort Jackson and Fort Gordon following the discontinuation of routine adenovirus immunization last spring.

In accordance with policy, the last adenovirus vaccines of the season were distributed to new trainees at Fort Jackson on 31 March 1997. Shortly thereafter, in mid-May, virus isolation was added to other ARD surveillance efforts at Forts Jackson and Gordon. For purposes of ARD surveillance, an ARD case was defined as a trainee who presented to "sick call" or the emergency room with a temperature greater than 100.5 F° and signs or symptoms of respiratory illness. On Monday through Friday, throat swabs were obtained from all ARD cases to attempt viral isolations. Cultures were not obtained from ARD cases that presented on weekends; thus, results underrepresent all adenovirus cases by approximately 20%.

ARD rates: At Fort Jackson, ARD rates rose steadily through the summer and early fall. Starting from an average ARD rate of 0.325% per week in June, ARD rates gradually climbed to an average of 0.825% per week during October (Figure 2, page 8). During that period, the "threshold" (1.5% per week) used for surveillance purposes to document center-wide "ARD epidemics" was never exceeded, and the surveillance indicator of streptococcal activity remained low. Still, the minimal care ward, normally with a 45-bed capacity, was filled several times during August and September, and, in October, it expanded to 65-beds with a contingency to

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expand up to 200 beds if necessary. This expansion was largely due to substantial increases in ARD cases (Table 1, page 8).

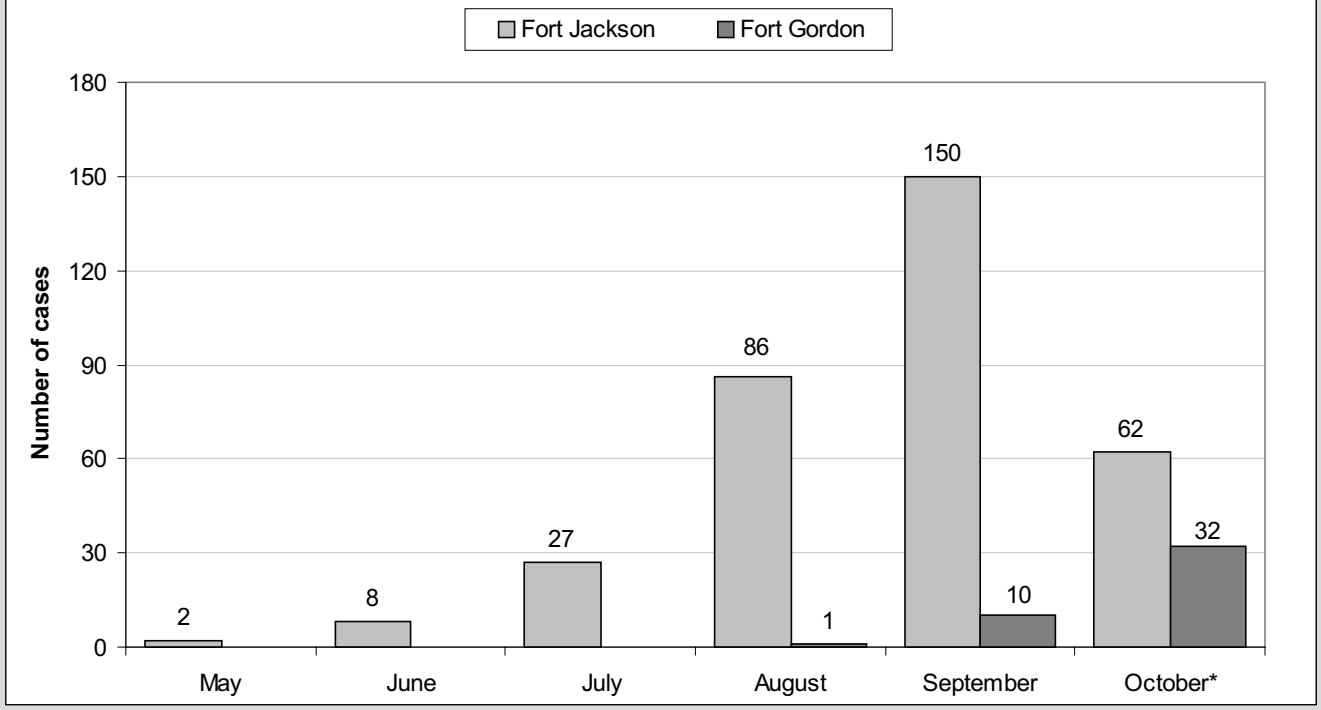
At Fort Jackson, between May and 15 October, there were 335 laboratory-confirmed cases of adenovirus type 4. (Figure 1). During the period, there were an additional five isolates of non-type 4 adenoviruses, most during the early months of the epidemic. There was only one isolation of adenovirus type 7 (the other vaccine homologous serotype).

Clinical presentation: At Fort Jackson, the typical presentation of an ARD case included exudative pharyngitis (often severe), cough and fever. Of those admitted to the minimal care ward, lengths of stay were generally less than two days. Because case presentations (e.g., fever, exudates) often suggested bacterial etiologies, antibiotics were widely prescribed. Perhaps partly as a result, there were no reports of serious complications or sequelae of adenovirus-associated ARD cases.

Demographics: During the period, ARD rates were initially higher among women than men (figure 2, page 8); however, by August, the relation was reversed. Demographic data were available for the first 242 confirmed adenovirus type 4 cases. Approximately one-third (31%) of all adenovirus isolates were recovered from females — this was less than the representation of females (39%) in the training population overall. In addition, since the current summary is limited to relatively earlier cases (when female ARD rates were relatively high), the relative excess of adenovirus isolates among males may increase as more data become available. Unquestionably, however, female trainees were at significant risk of acquiring and clinically manifesting infections with adenovirus type 4, and they should be included in current and future adenovirus prevention and control programs (e.g., vaccination).

Continued on page 8

Figure 1. Adenovirus cases by month, May - October 1997



* Through 15-Oct-97

TABLE I. Selected sentinel reportable diseases, US Army medical treatment facilities*
October, 1997

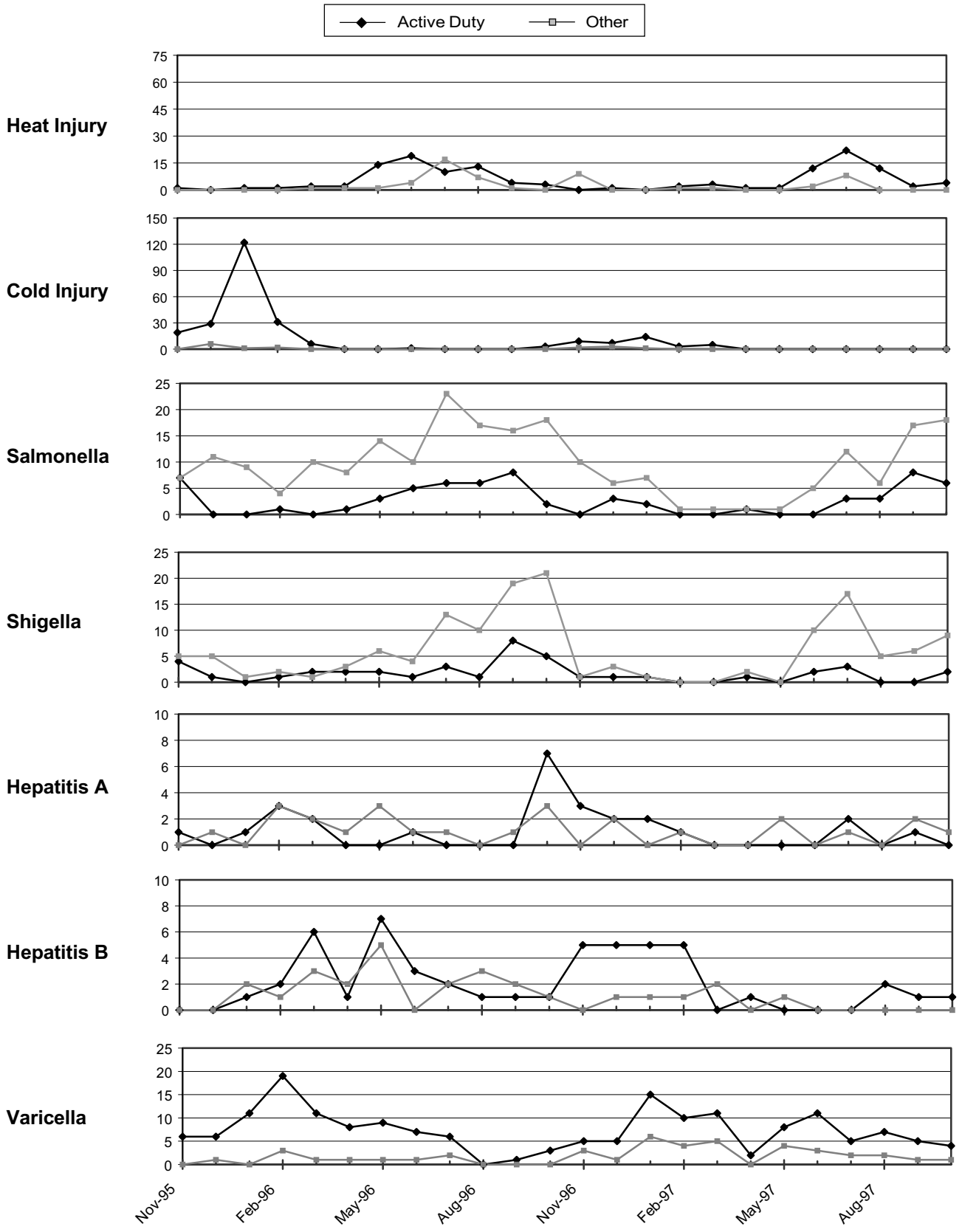
Reporting MTF/Post**	Total number of reports submitted October 1997	Environmental Injuries		Viral Hepatitis		Salmonellosis		Shigella		Varicella	
		Active Duty				Active Duty	Other	Active Duty	Other	Active Duty	Other Adult
		Heat	Cold	A	B						
		Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1997
NORTH ATLANTIC RMC											
Walter Reed AMC	43	0	0	0	1	1	4	0	2	3	3
Aberdeen Prov. Ground, MD	3	1	0	0	0	0	0	0	0	0	0
FT Belvoir, VA	31	0	0	0	3	1	7	0	3	0	0
FT Bragg, NC	9	7	8	0	0	2	43	16	81	0	0
FT Drum, NY	46	5	1	0	0	0	0	0	0	5	0
FT Eustis, VA	26	9	0	1	1	0	7	0	8	5	0
FT Knox, KY	16	8	0	0	0	0	1	0	0	0	0
FT Lee, VA	8	0	0	0	0	0	0	0	0	0	0
FT Meade, MD	10	0	0	0	0	0	1	0	0	0	0
West Point, NY	7	0	0	0	1	0	1	0	0	1	0
GREAT PLAINS RMC											
Brooke AMC	27	2	0	4	0	2	4	0	5	0	0
FT Carson, CO	60	2	0	1	2	1	3	0	0	0	0
FT Hood, TX	117	5	0	4	3	0	2	0	0	3	0
FT Leavenworth, KS	4	0	0	0	1	1	0	0	0	0	0
FT Leonard Wood, MO	30	4	2	2	0	0	0	0	0	16	8
FT Polk, LA	7	6	1	0	0	0	0	0	0	0	0
FT Riley, KS	20	5	0	0	0	0	1	0	1	0	0
FT Sill, OK	39	12	0	2	4	0	1	0	0	0	0
SOUTHEAST RMC											
Eisenhower AMC	42	0	0	0	1	0	0	0	0	0	0
FT Benning, GA	47	37	0	0	0	1	3	2	1	12	2
FT Campbell, KY	53	7	13	0	1	2	2	2	5	12	7
FT Jackson, SC	0	0	0	0	1	2	1	0	0	12	0
FT McClellan, AL	2	1	0	0	0	0	0	0	0	0	0
FT Rucker, AL	1	0	0	0	0	0	0	0	0	0	0
FT Stewart, GA	62	4	0	0	0	0	2	0	0	4	0
SOUTHWEST RMC											
Wm Beaumont AMC	35	0	0	1	1	0	5	0	1	11	3
FT Huachuca, AZ	12	0	0	0	0	0	0	2	3	1	0
FT Irwin, CA	9	1	0	0	0	0	0	0	0	0	0
NORTHWEST RMC											
Madigan AMC	35	0	0	4	0	1	11	0	0	0	0
FT Wainwright, AK	11	0	0	0	0	0	0	0	0	0	0
PACIFIC RMC											
Tripler AMC	87	2	0	1	1	0	4	0	0	0	0
OTHER LOCATIONS											
Europe	143	1	1	2	18	26	39	1	5	23	0
Korea	14	7	0	0	8	1	0	1	1	5	0
Total	**1056**	**126**	**26**	**22**	**47**	**41**	**142**	**24**	**116**	**113**	**23**

* Based on date of onset.

** Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Nov-97

FIGURE I. Selected sentinel reportable diseases, US Army medical treatment facilities*
Cases per month, Nov 95 - Oct 97



* Reports are included from main and satellite clinics. Not all sites reporting.

Date of report: 7-Nov-97

TABLE II. Reportable sexually transmitted diseases, US Army medical treatment facilities*
October, 1997

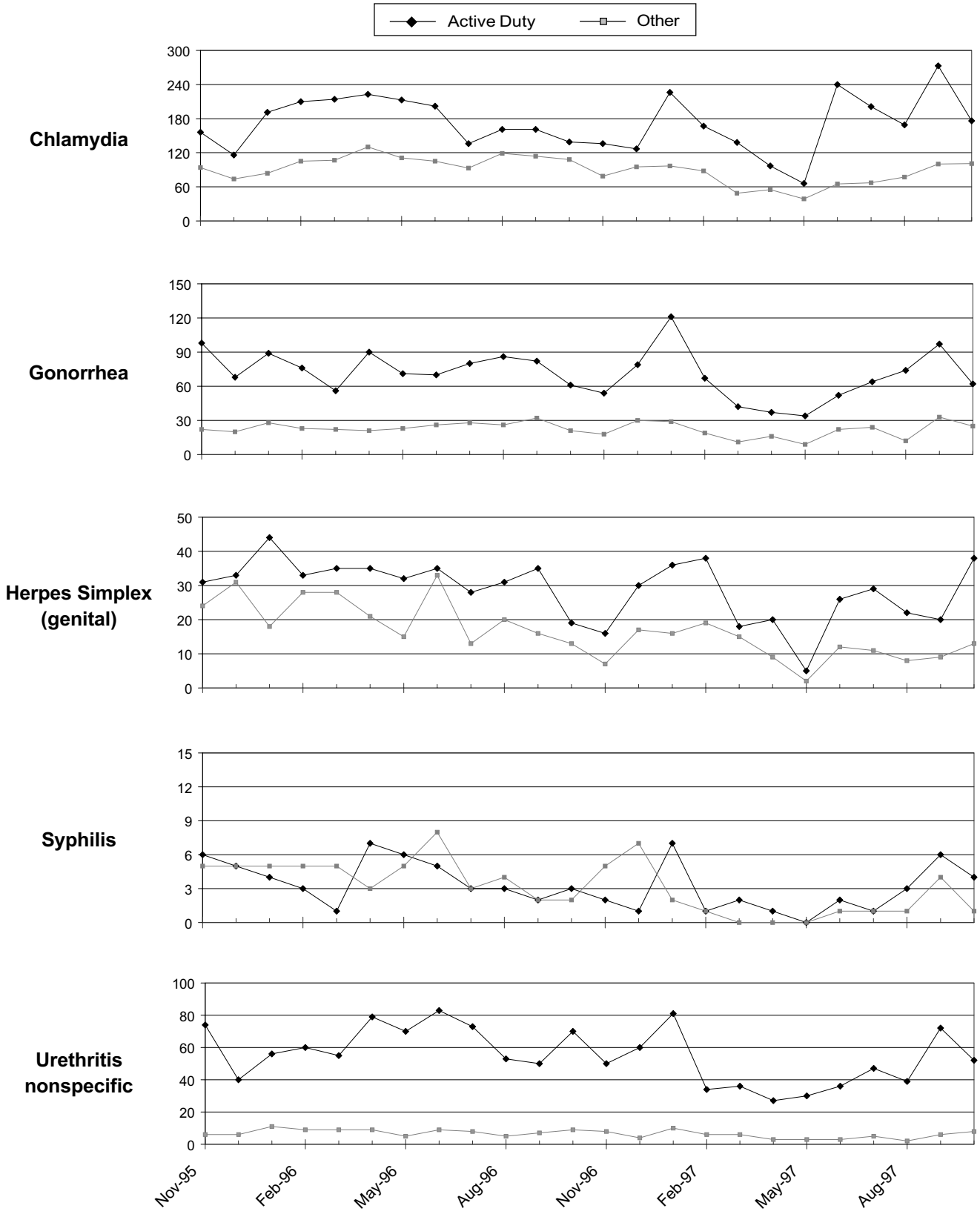
Reporting MTF/Post**	Chlamydia		Urethritis non-spec.		Gonorrhea		Herpes Simplex		Syphilis Prim/Sec		Syphilis Latent		Other STDs**	
	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997	Cur. Month	Cum. 1997
NORTH ATLANTIC RMC														
Walter Reed AMC	4	43	0	7	0	17	6	20	0	2	0	0	0	0
Aberdeen Prov. Ground, MD	2	18	0	2	0	22	0	5	0	0	0	0	0	0
FT Belvoir, VA	6	127	0	0	1	32	1	6	0	1	0	0	1	7
FT Bragg, NC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FT Drum, NY	8	78	0	4	4	32	0	4	3	3	0	0	0	0
FT Eustis, VA	12	112	0	0	5	22	0	0	0	1	0	1	0	0
FT Knox, KY	13	99	0	0	5	49	5	39	0	0	0	2	0	0
FT Lee, VA	1	13	0	0	7	8	0	0	0	0	0	0	0	0
FT Meade, MD	0	10	1	7	0	1	0	4	0	0	0	0	0	0
West Point, NY	1	2	0	0	0	0	0	0	0	0	0	0	0	0
GREAT PLAINS RMC														
Brooke AMC	19	146	0	0	3	45	1	8	0	0	0	0	0	0
FT Carson, CO	25	242	14	195	1	65	8	45	0	0	0	1	0	0
FT Hood, TX	14	507	6	163	7	280	3	50	0	9	0	2	0	5
FT Leavenworth, KS	3	25	0	0	0	5	0	0	0	0	0	0	0	0
FT Leonard Wood, MO	8	81	3	26	3	27	0	0	0	0	0	1	0	0
FT Polk, LA	3	53	0	0	1	16	2	5	0	0	0	2	0	3
FT Riley, KS	15	159	0	0	5	33	0	0	0	0	0	1	0	1
FT Sill, OK	17	164	6	38	6	66	2	11	0	0	0	0	1	6
SOUTHEAST RMC														
Eisenhower AMC	3	78	0	0	1	21	1	38	0	1	0	0	0	8
FT Benning, GA	13	58	0	0	5	58	1	27	0	1	0	2	0	0
FT Campbell, KY	28	238	0	0	18	148	0	22	0	0	0	1	0	1
FT Jackson, SC	0	645§	0	0	0	18	0	41	0	1	0	0	0	3
FT McClellan, AL	0	7	0	0	0	5	0	1	0	0	0	0	0	1
FT Rucker, AL	0	5	0	0	0	0	0	0	0	0	0	0	0	0
FT Stewart, GA	9	100	16	141	2	92	6	53	0	0	0	2	0	27
SOUTHWEST RMC														
Wm Beaumont AMC	15	245	0	0	7	44	1	37	0	2	0	1	0	2
FT Huachuca, AZ	0	32	0	0	0	3	0	3	0	0	0	0	0	0
FT Irwin, CA	1	34	0	0	0	6	0	4	0	1	0	0	0	0
NORTHWEST RMC														
Madigan AMC	13	213	14	101	0	57	2	42	0	0	0	0	0	0
FT Wainwright, AK	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC RMC														
Tripler AMC	26	130	0	0	2	40	12	74	0	0	0	0	0	0
OTHER LOCATIONS														
Europe	18	533	0	10	4	131	0	28	0	3	0	0	0	2
Korea	0	24	0	0	0	1	0	1	0	0	0	0	0	0
Total	**277**	**4221**	**60**	**694**	**87**	**1344**	**51**	**568**	**3**	**25**	**0**	**16**	**2**	**66**

* Reports are included from main and satellite clinics. Not all sites reporting. Date of Report: 7-Nov-97

** Other STDs: (a) Chancroid (b) Granuloma Inguinale (c) Lymphogranuloma Venereum (d) Syphilis unspec. (e) Syph, tertiary (f) Syph, congenital

§ Includes participants in a large-scale ongoing chlamydia study (females only).

FIGURE II. Reportable sexually transmitted diseases, US Army medical treatment facilities*
Cases per month, Nov 95 - Oct 97



* Reports are included from main and satellite clinics. Not all sites reporting.

Date of report: 7-Nov-97

Table 1. Admission characteristics of adenovirus 4 cases, Fort Jackson, Jul - Oct 1997*

	Number of admissions	Average infirmary census	Number of ARD cases (%)	ADV cases (%)	Average length of stay (days)
July	367	6.6	186 (51%)	27 (7%)	1.5
August	465	25.7	187 (40%)	86 (19%)	1.7
September	441	26.9	216 (50%)	150 (34%)	1.8
October**	559	37.5	407 (73%)	62 (11%)	2.0

* Admissions refer to the minimal care ("infirmary") ward only ** Through 15-Oct-97

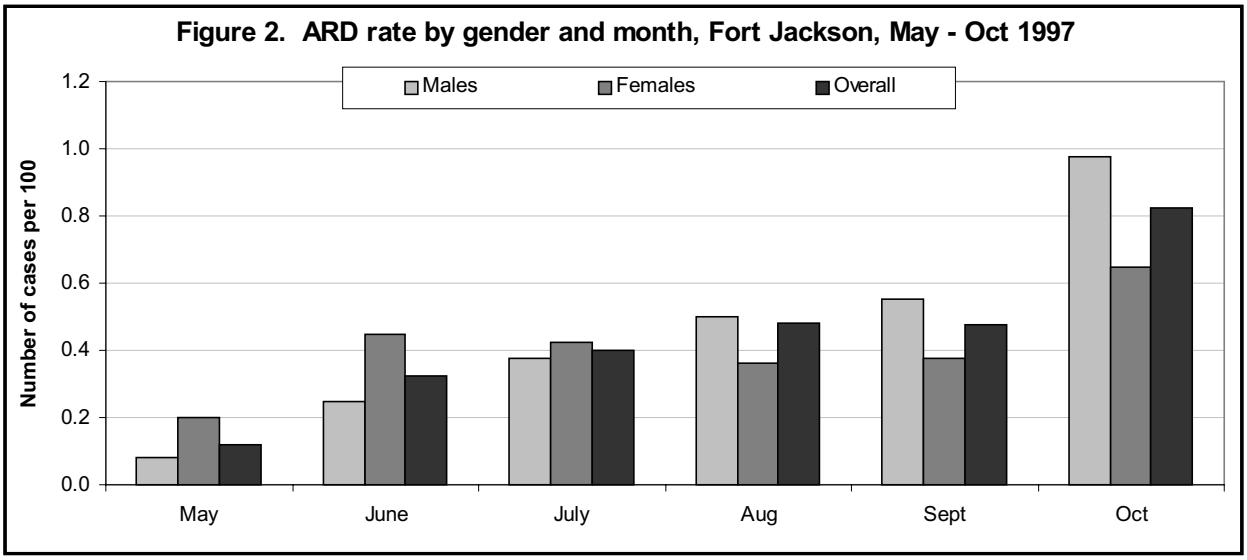
Continued from page 3

Clustering: Assessment of the first 195 cases revealed that three companies (average size=200) had more than 25 cases each. One company had 23 cases early in the period and another 25 cases in a subsequent training cycle. While most cases occurred in the second half of basic training (weeks 4-8), three cases were identified among trainees still in the Reception Battalion (within their first few days of Army service). These individuals may have been infected at their homes or enroute to Fort Jackson and may represent index or "seed" cases (Figure 3, page 9).

Exportation of adenovirus: At Fort Gordon, Georgia, 43 cases of adenovirus type 4 were recovered from hospitalized advanced individual training (AIT) students. Virus isolations increased at Fort Gordon from August through October. Of the 43 Fort Gordon cases, 35 (81.4%) had conducted their basic training at Fort Jackson, and 15 of these (34.9% of the total) were considered "imported cases" (i.e., presentations with ARD were within one incubation period of their arrival at Fort Gordon). The other 28 cases were considered infected after their arrival at Fort Gordon. These findings suggest that adenovirus type 4 was imported to Fort Gordon from Fort Jackson and then spread among unvaccinated, nonimmune AIT trainees.

Vaccination: The recent increases of ARD at Fort Jackson were largely associated with adenovirus type 4 infections. Thus, it is anticipated that ARD rates at Fort Jackson will significantly decline within eight weeks of resuming routine adenovirus immunizations of new trainees. In September, the Food and Drug Administration extended the shelf life of remaining adenovirus vaccine stocks. Problems with vaccine distribution delayed its reintro-

Figure 2. ARD rate by gender and month, Fort Jackson, May - Oct 1997

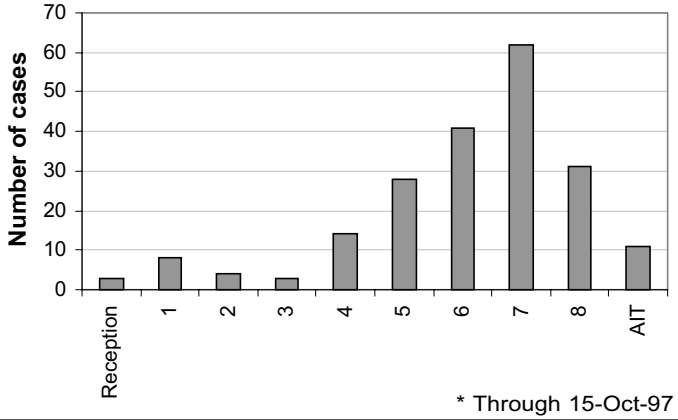


duction during the fall, and adenovirus vaccine administration to new trainees at Fort Jackson resumed on 3 November 1997.

Summary: The summertime outbreak of adenovirus type 4 among basic trainees at Fort Jackson and its subsequent spread to and among advanced trainees at another post highlight the continued military and medical importance of adenoviruses and the relevance and desirability of routine year round vaccination of new trainees.

Information submitted by Rose Marie Hendrix, LTC, MC Chief, Preventive Medicine Service, Fort Jackson, SC and K. Mills McNeill, COL, MC, Director, Preventive Medicine Services, Eisenhower Army Medical Center, Fort Gordon, GA.

Figure 3. Adenovirus 4 cases by week of training, Fort Jackson, May - Sep 1997



Surveillance Trends

Hospitalizations of Soldiers for Insect, Lizard, and Snake Envenomations

During the period 1990 to June 1997, there were 728 hospitalizations of active duty soldiers for arthropod, lizard, or snake envenomations (1st, 2nd, or 3rd discharge diagnosis: ICD-9 code 989.5). Crude Army-wide rates generally declined over the period. More than 25% of the cases were associated with significant skin manifestations (e.g., cellulitis, urticaria) — smaller numbers were complicated by cardiovascular (n=25), respiratory (n=21), or hematologic (n=8) abnormalities. The median hospital stay was one day, the mean was 4.2 days, and the longest was 207 days. Envenomation hospitalizations accounted for 2,664 lost duty days (equivalent to more than seven lost soldier-years).

Hospitalizations for envenomations were most frequent during the summer and early fall, and more cases occurred in August than any other month (figure, page 10). Infantry soldiers (n=195) accounted for more than one-fourth of all cases, and nearly half occurred at six installations — in the southern US or Central America — with large infantry populations (e.g., Benning, Panama, Campbell, Polk, Hood, Bragg).

Editorial comment: Stings of venomous arthropods can cause severe reactions, including systemic or anaphylactic reactions, in sensitized individuals.[1] In different populations, prevalences of insect sting allergies vary based on age distributions and criteria used (e.g., history, skin test, RAST).[2] In recent studies, the prevalence of systemic allergic sting reactions among adult survey respondents was estimated as 3.3%,[3] while 1.2% of adults between 20 and 60 years old reported histories of systemic reactions to hymenoptera stings.[4] In the Army's recent experience, most envenomation hospitalizations occurred in the late summer-early

fall when bees, yellow jackets, hornets and wasps are most aggressive.[5] Thus, while the nature of envenomations that resulted in hospitalizations of soldiers is unclear, it is likely that insect stings were responsible for many of them.

In the United States, poisonous snakes account for approximately 8,000 bites and 15 deaths annually. The majority of deaths occur in children, the elderly, and in untreated or inappropriately treated individuals.[6] Clearly, venomous snakes can present more serious risks to soldiers when they operate in high risk areas outside the United States.[7]

In summary, bites and stings of venomous arthropods, lizards, and snakes are occupational hazards for soldiers — especially infantrymen. Risks of envenomation are likely to be greatest during field operations in tropical environments and during the late summer-early fall in the United States. Special knowledge, training, and supplies are required at multiple echelons of medical support to effectively prevent, diagnose, and treat venomous bites and stings during military operations.

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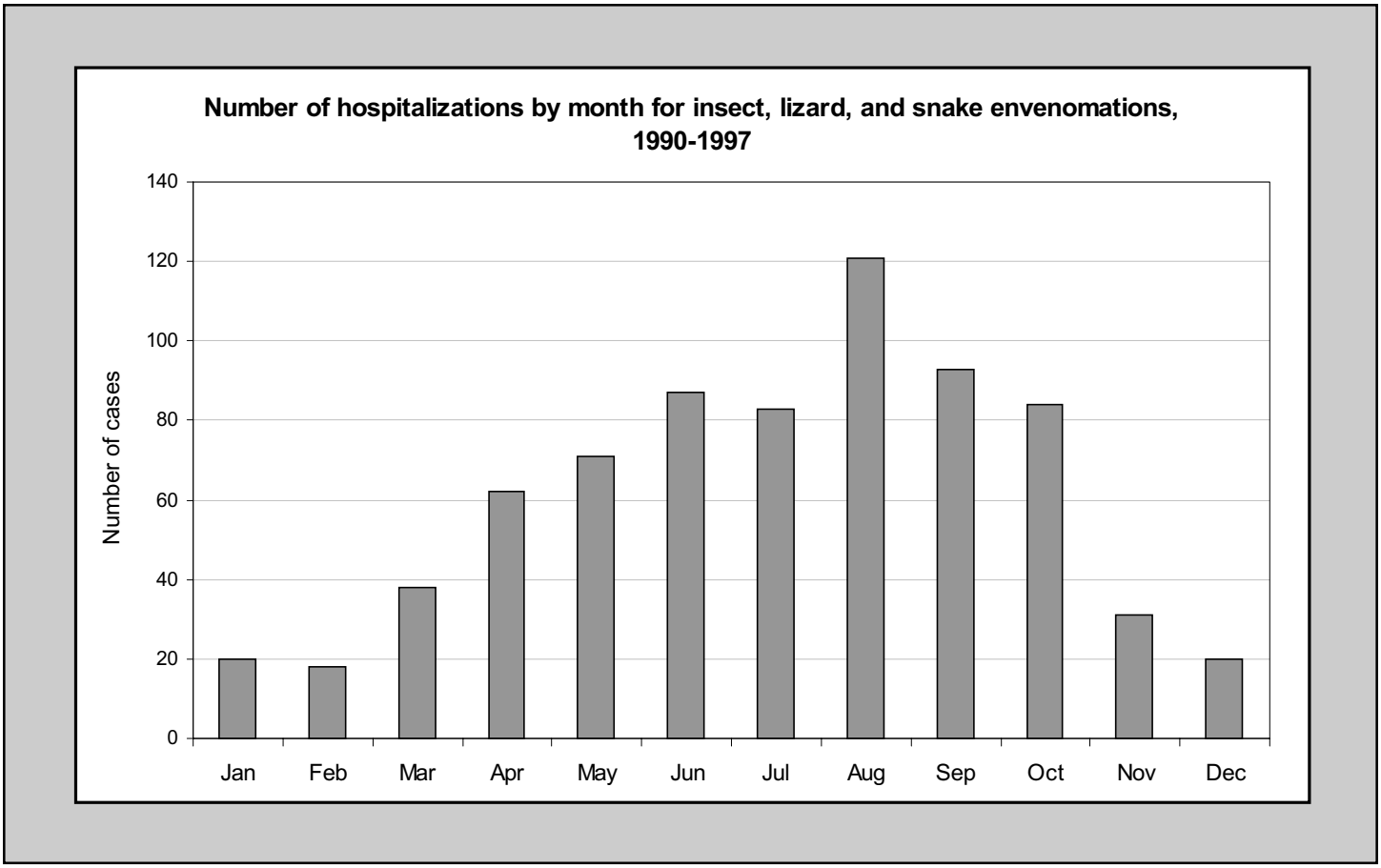


ARD Surveillance Update

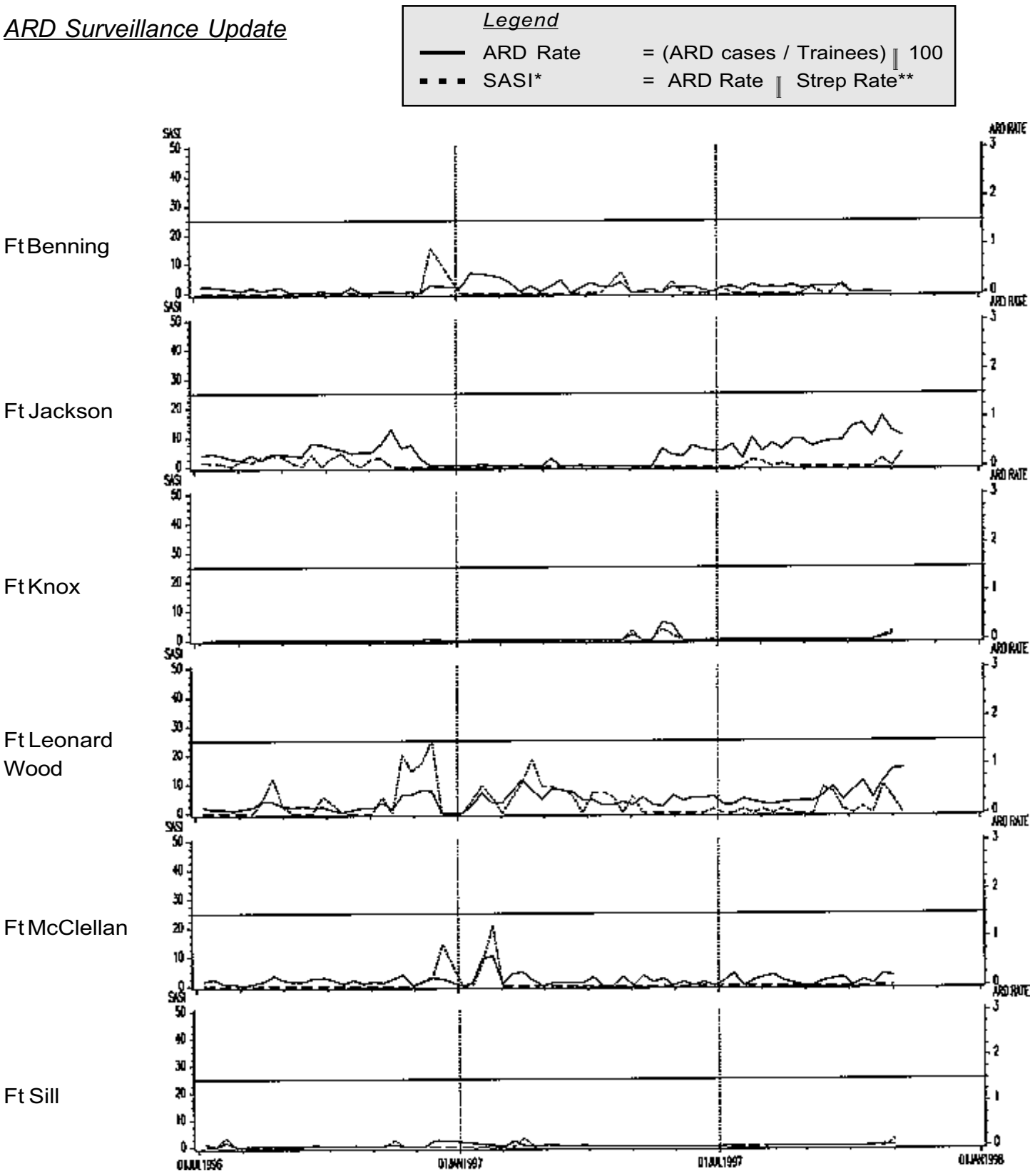


Figure III. ARD surveillance rates, submitted by Army TRADOC posts

* Strep/ARD Surveillance Index (SASI)

**Strep Rate= (GABHS(+) / Cultures) ‖ 100

Note: SASI has proven to be a reliable predictor of serious strep-related morbidity, especially acute rheumatic fever.

Update, Reportable Disease Compliance

Completeness and Timeliness of Required Disease Reporting: Reportable Hospitalizations among Active Duty Soldiers, January - June 1997

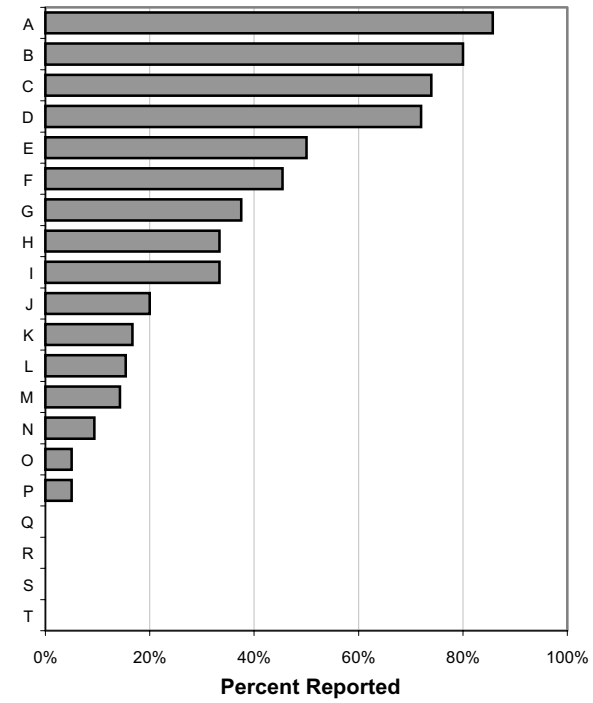
In April of 1997, the MSMR studied compliance with notifiable disease reporting by comparing reports received through the Army's automated reportable disease system (MSS) with hospitalization data collected through SIDR, the military's central hospitalization database. "Reportable" hospitalizations were those with a primary discharge diagnosis whose ICD-9 code matched that of an Army reportable condition in an active duty soldier. This report summarizes the results of a follow-up analysis, tracking compliance rates for January through June of 1997.

Completeness, overall: To date, the proportion of "reportable" hospitalizations reported through MSS has remained remarkably stable. For calendar years 1995 and 1996, the proportions were 29.8% and 30.5% respectively, while in the first half of 1997, it was slightly better at 31.6%.

Completeness, by installation: For the first half of 1997, among installations with five or more reportable hospitalizations, reporting completeness ranged from 0-86%. Fort Jackson achieved the highest reporting compliance for this time period, capturing 6 of its 7 hospitalized reportable diseases. Four sites failed to capture any of their reportable hospitalizations. Table 1 shows the distribution of reportable hospitalizations and the total number of confirmed reports received by AMSA by installation.

Completeness, by disease/condition: Table 2 summarizes completeness of reporting by specific diseases or conditions. Malaria continues to be well reported, with 75% of hospitalizations being captured. The biggest improvements in reporting

Table 1. Reporting completeness by MTF, January - June 1997



MTF	Hospitalizations*		All reports		
	Number reported	Total	Reports received Jan - Jun	Non-STD reports received	STD reports received
A	6	7	477	16	461
B	8	10	131	12	119
C	17	23	62	26	36
D	18	25	92	27	65
E	6	12	508	93	415
F	5	11	71	60	11
G	3	8	282	5	277
H	4	12	203	38	165
I	2	6	73	6	67
J	4	20	50	22	28
K	1	6	241	26	215
L	2	13	47	4	43
M	1	7	41	8	33
N	3	34	25	25	0
O	1	21	135	13	122
P	1	22	398	39	359
Q	0	10	53	3	50
R	0	8	104	7	97
S	0	8	158	4	154
T	0	5	27	2	25

* Active Duty only

Table 3. Timeliness of reporting, reportable hospitalizations among soldiers, January - June 1997		
Interval	**% in Interval**	**Cumulative %**
< 1 week	44.1%	44.1%
1-2 weeks	22.6%	66.7%
2-3 weeks	10.8%	77.5%
3-4 weeks	6.5%	84.0%
1-2 months	10.8%	94.8%

between 1996 and the first half of 1997 were in heat and cold injuries. Where previously only 31% of heat and 9% of cold injury hospitalizations were submitted, in this time period 76% of heat and 33% of cold injuries were reported. Varicella and rhabdomyolysis, the two conditions previously found to be the most under-reported, continue to account for nearly 60% of unreported cases. Pneumococcal pneumonia is also poorly captured as none of 12 cases were reported to AMSA.

Timeliness: Timeliness continues to be a strength of the system as nearly half of reports arrived within a week of hospitalization, and 84% within a month (table 3). While there was a decrease in the percent of reports received rapidly since the earlier analysis (from 64% to 44% at one week), by 3-4 weeks from hospitalization, the cumulative percents of reports received were similar.

Editorial Comment: Overall compliance with reporting notifiable conditions remained remarkably stable over the first two and a half years of reporting. Few interventions designed specifically to increase compliance occurred during this period. However, since April 1997, there have been several efforts to enhance the performance of the MSS. Effects of these interventions will not be detectable until the next periodic compliance analysis.

The disease specific variability in reporting suggests that there is inconsistent recognition of reportable diseases among clinicians and/or preventive medicine staffs. Malaria and heat injuries, two of the most important conditions of military significance, each had reporting levels of approximately 75%. Varicella, rhabdomyolysis and pneumococcal pneumonia are not well recognized as reportable. Education about militarily unique reporting requirements, particularly among clinicians, remains a challenge to the preventive medicine community.

While an overall "success" rate of 30% seems poor, the ability to identify sites with poor reporting and conditions that are typically missed provides insights that may lead to improvements in the process.

The consistency of the first three estimates of reporting compliance validates the use of 30% as a reliable baseline. In the future, 30% overall reporting compliance will be a useful yardstick for assessing effects of future program modifications and tracking overall program performance.

Table 2. Completeness of reporting, reportable hospitalizations among soldiers, January - June 1997			
	Reportable hospitalizations	**Number reported**	**Percent reported**
Giardiasis	1	1	100.0%
Tularemia	1	1	100.0%
Heat injury	21	16	76.2%
Malaria	4	3	75.0%
Leishmaniasis	20	11	55.0%
Cold weather injury	3	1	33.3%
Salmonella	3	1	33.3%
Varicella	127	41	32.3%
Meningitis, viral	21	6	28.6%
Rhabdomyolysis	44	9	20.5%
Hepatitis	8	1	12.5%
Legionellosis	1	0	0.0%
Campylobacteriosis	2	0	0.0%
Influenza	2	0	0.0%
Meningitis, bacterial	3	0	0.0%
TB, pulmonary	3	0	0.0%
Encephalitis	3	0	0.0%
Guillain-Barre syndrome	4	0	0.0%
Pneumococcal pneumonia	12	0	0.0%
Chemical agent exposure	14	0	0.0%

Update, Notifiable Disease Reporting

Survey of Users of the Army's Reportable Disease System

A questionnaire was recently distributed to each of the 33 sites that submit reports to the Army's automated reportable disease system (MSS). The survey solicited feedback from the users on reporting requirements, software used for reporting, and specific obstacles to complete and accurate reporting. Specific areas of improvement were sought by providing open comment fields. Finally, local methods of data collection and subjective assessments of completeness of reporting were summarized in relation to objective measurements of performance.

General: Each site was asked to provide two responses, one from the Chief of Preventive Medicine and the other from the person who works most with the system. Of 66 possible responses, 39 were returned for a complete response rate of 59%. Because many sites returned only one copy of the survey, a total of 91% of sites were represented. Slightly over half of respondents were chiefs of service (60% MD, 40% CHN). None of the physician respondents were primary users of the system, while 75% of the non-physician chiefs personally entered data. Eighty-two percent of all respondents and all but one of the chiefs of service stated they receive the MSMR.

Computer hardware/software issues: A lack of computer infrastructure continues to plague many responding sites -- 38% cited it as a problem. The production of reports causes difficulties at a third of sites, and a quarter of responding sites reported difficulties in transmitting data. All sites are now using FTP transmission, but local network difficulties frequently arise, and information management support at the local level is often considered inadequate.

Reporting requirements: In general, this area was not perceived as a particular problem. The two areas cited most often were unclear case definitions (23%) and "dual" reporting requirements (22%).

Resource issues: The single issue most often cited in this category was inadequate time to investigate cases. Not surprisingly, chiefs of service were more likely to list this as a problem than were non-chiefs (53% vs. 19%). Inadequate personnel to fill out reports was cited by 24% of respondents as a problem.

Data collection: Without question, data collection issues were seen as the area most in need of improvement. Sixty-seven percent of responding sites reported that clinicians were unaware of the need to report notifiable diseases. Furthermore, 62% of sites believed that clinicians were unwilling to report. Again, there was a difference between physician and non-physician respondents in this regard. Sixty-nine percent of non-physicians reported that clinicians were unwilling to report compared with only 45% of physicians. Two-thirds of respondents reported difficulty getting data from outlying clinics.

Self-perception: To assess how well sites perceived their capture and reporting of STD and notifiable non-STD cases, respondents were asked to estimate the proportion of these cases that were reported through MSS. While most respondents were confident that they were reporting "all" or "most" of their STD's (84%), far fewer felt that they were reporting "all" or "most" of their non-STD cases (62%). Physician and non-physician chiefs of service differed in their responses. Physicians were much more pessimistic (and, it turns out, more accurate) about their success in reporting notifiable diseases. Only 46% of physician chiefs felt that they report "all" or "most" of their non-STD reportable diseases, while 88% of non-physician chiefs assessed their compliance that high (figure, page 15).

Self-assessments of reporting compliance were matched with data regarding completeness of reporting of notifiable hospitalized cases (page 12).

Only sites with more than five hospitalizations for reportable conditions from January through June of 1997 were included.

In general, there was a tendency to overestimate reportable disease capture. Fifty-nine percent of respondents overestimated their capture of notifiable hospitalized cases. Three sites that estimated capture of "all" (>90%) cases actually reported fewer than 10%. Only three sites (14%) were able to provide accurate estimates of their reporting success. Interestingly, the sites that underestimated their capture rates tended to be the most successful at reporting hospitalized cases. Four of the top five reporting sites underestimated their success and were the only sites to do so.

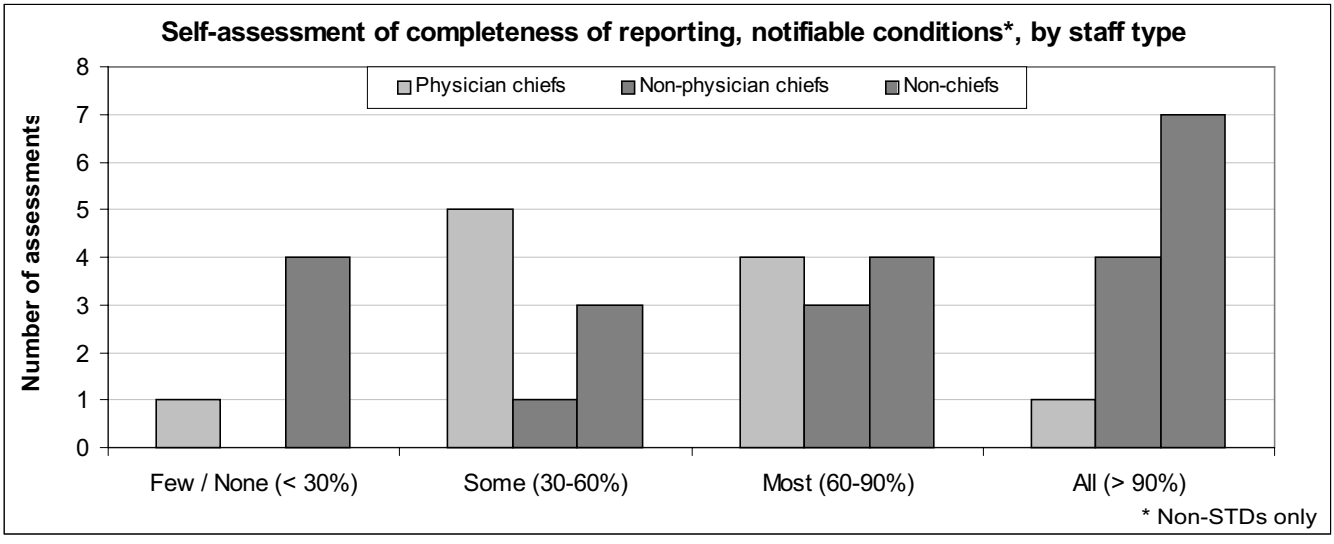
Markers for success: To help identify the active case-finding measures that were associated with the most success in capturing hospitalized reportable conditions, the responses of the five sites with greater than 50% capture were compared with those from the seven sites with less than 10%. The sites with greater success were much more likely to review both ICU admissions and emergency room reports, and to send a representative to morning or grand rounds than the less successful sites.

Finally, 80% of chiefs of service at the best reporting sites responded to the survey while only 43% of chiefs responded from sites with less than 10% capture. This difference suggests that involvement by the chief is an important correlate of success.

Editorial Comment: The MSS site survey was conducted to identify obstacles to complete and accurate reporting. Two significant findings in this regard were related to data collection: lack of clinician awareness and difficulty retrieving data from outlying (particularly civilian) clinics. Resources, both computer and personnel, were also identified as obstacles. These issues are more difficult to address than purely technical ones.

Many sites were unaware of their disease reporting problems and therefore were making no serious efforts to evaluate and improve their medical surveillance activities. Survey results suggest that many less successful sites are overconfident, which, in light of the compliance data, seems unwarranted.

The findings from this survey will be incorporated into upgrades of the MSS computer software. Sites with chiefs that are active in medical surveillance and that employ active and aggressive case finding are, not surprisingly, the most successful at reporting notifiable conditions. The preventive medicine community must continue to emphasize medical surveillance as a key preventive medicine/community health function.



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